



March 2002

**2002 Errata  
to  
1996 Edition of**

***Load and Resistance Factor Design Manual (LRFD) for Engineered Wood Construction with the  
Standard for Load and Resistance Factor Design for Engineered Wood Construction,  
AF&PA/ASCE 16-95***

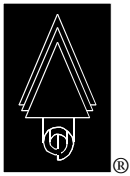
<u>Page</u>	<u>Section</u>	<u>Revision</u>
Page 37	Section 4.3.1	“Sec. 4.3-4” should be “Eq. 4.3-4”
Page 87	Design for shear	“Figure 1” should be “Figure 9.2A”
Page 162	Equation 7.6-9	“ $Z_{\theta}$ ” should be “ $Z'_{\theta}$ ”
Page 167	First paragraph	“Fig. A2.2-2” should be “Fig. A2.3-1”
Page 169	A2.3.6 Nominal moment resistance	<p>“...<math>M_e</math>, calculated by Eq. 5.4-4.” Should be “...<math>M_e</math>, calculated by Eq. 5.2-7”</p> <p>“<math>M'</math> shall then be calculated by use of Eq. 5.4-1” should be “<math>M'</math> shall then be calculated by use of Eq. 5.2-4”</p> <p>“...and compared with the value obtained from Eq. 5.3-1” should be “...and compared with the value obtained from Eq. 5.2-2.”</p> <p>“The factor for tapering, <math>K_{si}</math>, shall not apply to arches.” should be “The factor for tapering, <math>K_{sr}</math>, shall not apply to arches.”</p>
Page 173	A5.1 Definitions and Notations	“A5.1-1 through A5.1-4” should be “A5.1-1 and A5.1-4”
Page 187	2 <sup>nd</sup> col. 2 <sup>nd</sup> par.	“...such as Eq. C1.4-2...” should be “...such as Eq. C1.4-1...”
Page 206	First paragraph in 2 <sup>nd</sup> column	<p>“Eq. C5.2-7 is compared with Eq. 5.2-8.” should be “Eq. C5.2-3 is compared with Eq. 5.2-7.”</p>
Page 206	Eq. C5-2.4	“ $M_b$ ” in equation should be “ $C_b$ ”

<u>Page</u>	<u>Section</u>	<u>Revision</u>
Page 216	Fig. C7.3-1	“If $s/4 > g$ : count as 2 rows of 6 each” should be “If $s/4 > g$ : count as 2 rows of 5 each”
Page 219	C7.6.3 2 <sup>nd</sup> par.	“...Fig. 7.4-1.” should be “...Fig. 7.6-1.”
Page 235	First paragraph	“end block constant, $C_{eb}$ , ...” should be “end block constant, $K_s$ ,...”
Page 237	CA2.3.8 4 <sup>th</sup> par.	“...by Eq. A2.3.” should be “...by Section A2.3.8”

***LRFD Supplement for Structural Lumber of the  
1996 LRFD Manual for Engineered Wood Construction***

<u>Page</u>	<u>Section</u>	<u>Revision</u>
25	Table 3.3 Footnote 1	Add the following: “For members with reference strength values listed in Table 3.3, $C_F = 1.0$ for all properties and all sizes 12” in width and less. For sizes greater than 12”, $C_F$ for $F_b$ is computed as $(12/d)^{1/9} \leq 1.0$ , where $d$ is the depth of the member.”
35	Table 4.3 Footnote 1	Add the following: “For dimension lumber wider than 12” (all grades except Dense Structural 86, Dense Structural 72 and Dense Structural 65), tabulated bending, tension and compression parallel to grain design values for 12” wide lumber shall be multiplied by the size factor, $C_F = 0.9$ . When the depth, $d$ , of Dense Structural 86, Dense Structural 72 or Dense Structural 65 dimension lumber exceeds 12”, the tabulated bending design value, $F_b$ , shall be multiplied by the following size factor: $C = (12/d)^{1/9} \leq 1.0$ .”
35	Table 4.3 Footnote 3	Replace with: “For members with reference strength values listed in Table 3.3, $C_F = 1.0$ for all properties and all sizes 12” in width and less. For sizes greater than 12”, $C_F$ for $F_b$ is computed as $(12/d)^{1/9} \leq 1.0$ , where $d$ is the depth of the member.”

Future updates will be available at <http://www.awc.org>

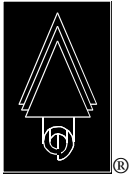


June 1999

**1999 ERRATA  
to  
1996 Edition of**

**LRFD MANUAL FOR ENGINEERED WOOD CONSTRUCTION with the  
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<b><u>Page</u></b>	<b><u>Revision</u></b>
139	In equation 5.1.4, "tan $\theta$ " in the third term of the denominator should be " $\tan^2 \theta$ ".
139	In paragraph 2 of section 5.1.11, remove "for use in equation 5.1-4".
169	" $K_{si}$ " in A2.2.6 and A2.3.6 should be " $C_1$ ".
169	In section A2.3.6 reference to equations 5.4-4, 5.4-1, and 5.3-1 should be to equations 5.2-7, 5.2-4, and 5.2-2, respectively.
225	In equation C8.5-3, $(EI)'$ should appear in the denominator where $(EI)'$ is the adjusted flexural stiffness (kip-in. <sup>2</sup> /ft). $k$ constants for C8.5-3 should be 922 instead of 0.92, 2220 instead of 2.22, and 1740 instead of 1.74.



January 1999

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**Page    Revision**

- 135    In equation 4.3-3, “ $\phi_s$ ” should be “ $\phi_s$ ”.
- 136    In Table 4.3-1, design diameter (D) should be defined as  $D = D_1 + X(D_2 - D_1)$ .
- 136    In Table 4.3-2, design depth (d) should be defined as  $d = d_1 + X(d_2 - d_1)$ .
- 137    In 4.5.2, beginning of third paragraph should be, “When the length in bearing,  $l_b$ , is no more than 6 in. (150 mm) along the member length and the full bearing length is at least 3 in. (75 mm) from the member end,  $F_{c\perp}$  shall be permitted to be multiplied by  $C_b$ .”
- 137    In denominator of equation 4.5-7, “ $F_{c\perp}$ ” should be “ $F_{c\perp}$ ”.
- 140    Table 5.2-1 effective length factors should be:

Span Condition	Loading Condition	Bracing Condition	$l_e$		
			$l_u/d < 7$	$7 \leq l_u/d \leq 14.3$	$l_u/d > 14.3$
Any condition not listed below			$2.06 l_u$	$1.63 l_u + 3d$	$1.84 l_u$
Single span	concentrated load at midspan	braced at ends only	$1.80 l_u$	$1.37 l_u + 3d$	$1.37 l_u + 3d$
	uniformly distributed load	braced at ends only	$2.06 l_u$	$1.63 l_u + 3d$	$1.63 l_u + 3d$
Cantilever	concentrated load at unsupported end	–	$1.87 l_u$	$1.44 l_u + 3d$	$1.44 l_u + 3d$
	uniformly distributed load	–	$1.33 l_u$	$0.90 l_u + 3d$	$0.90 l_u + 3d$
Single Span of length L			$l_e$		
	Uniformly spaced concentrated loads	braced at each concentrated load:			
	one load	$l_u = L/2$		$1.11 l_u$	
	two loads	$l_u = L/3$		$1.68 l_u$	
	three loads	$l_u = L/4$		$1.54 l_u$	
	four loads	$l_u = L/5$		$1.68 l_u$	
	five loads	$l_u = L/6$		$1.73 l_u$	
	six loads	$l_u = L/7$		$1.78 l_u$	
	seven or more loads	–		$1.84 l_u$	
	Equal end moments	–		$1.84 l_u$	

**Page**   **Revision**

143    Section 5.4.2 paragraph 3 should be, “Alternatively, for continuous or cantilevered bending members of sawn lumber, the adjusted shear resistance at locations at least three times the member depth from the member end shall be permitted to be determined using Eq. 5.4-1 or the following:

$$V' = (V' \text{ from Eq. 5.4-1 or 5.4-2}) \left( 1 + \frac{(x - 3d)}{3d} \right) \text{ but } \leq 2 (V' \text{ from Eq. 5.4-1 or 5.4-2}) \quad (5.4-3)$$

where  $x$  is the distance from the end of the member and  $C_{rt}$  is 1.0 for all members when using Eq. 5.4-3.”

152    In section 7.4.3.1, paragraph two, “7.3-1” should be “7.4-1”

156    Equation 7.5-3 should be  $Z = (0.93 k_1 D t_s F_{es})/K_{\theta}$ .

156    In Table 7.5-2(a), yield mode “III<sub>m</sub>” should be “III<sub>m</sub>”.

157    In equation 7.5-10, “ $F_{tb}$ ” term should be “ $F_{yb}$ ”.

157    In equation  $k_4$  in Table 7.5-2(c), “ $t_s$ ” term should be “ $t_s^2$ ”.

167    Equation for  $K_{gr}$  should be:  $K_{gr} = X - Y(d_c/R_m)$ .



## AMERICAN FOREST & PAPER ASSOCIATION

American Wood Council  
Engineered and Traditional Wood Products

March 2002

### 1996 LRFD Manual Information

#### Errata/Updates

Attached please find the latest Errata/Addendum to the *1996 Load and Resistance Factor Design (LRFD) Manual for Engineered Wood Construction*. Note that any subsequent errata or updates will be made available to download free from the American Wood Council website at:

<http://www.awc.org/Standards/lrfd.html>

#### Supplements

Note that the following Supplements are not included with this *1996 LRFD Manual*:

Structural Use Panels  
Structural Glued Laminated Timber

These Supplements are free to download in electronic format (PDF) from one of the following websites:

<http://www.awc.org/Standards/lrfd.html>

<http://www.apawood.org>

Note also that a new Supplement entitled *ASD/LRFD Special Design Provisions for Wind and Seismic* has been developed and is also available to download free from <http://www.awc.org/Standards/lrfd.html>. The provisions of this Supplement are based on the latest edition of ASCE's *Minimum Design Loads for Buildings and Other Structures - ASCE 7*.

Photocopies of these Supplements are also available on request for a nominal fee.

#### ASCE 7 Load Combinations

The *LRFD Manual* contains the *Standard for Load and Resistance Factor Design (LRFD) for Engineered Wood Construction, AF&PA/ASCE Standard 16-95*. Section 1.3 of the *LRFD Standard* states that, "Nominal loads shall be those required by the applicable building code. In the absence of a governing code, the nominal loads shall be those stipulated in *ASCE 7-93*." The Commentary to the *LRFD Standard* (section C1.4.3) provides additional discussion on this issue. A tabulation of load combinations for several versions of ASCE 7, along with guidance on their use, is available at <http://www.awc.org/Standards/lrfd.html>.

#### LRFD Solved Example Problems for Wood Structures

A companion document has been developed for the *LRFD Manual* entitled *LRFD Solved Example Problems for Wood Structures*. It contains 40 design examples and complete solutions based on the *LRFD Manual*. More information on its availability can be found at <http://www.awc.org/Standards/lrfd.html>.